



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/670,705	09/27/2000	Gerhard Reichert		6878

7590 12/01/2004

Fred Zollinger III  
6370 Mt. Pleasant Ave, NW  
PO Box 2368  
North Canton, OH 44720

EXAMINER
----------

GOFF II, JOHN L

ART UNIT	PAPER NUMBER
----------	--------------

1733

DATE MAILED: 12/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/670,705

Applicant(s)

REICHERT, GERHARD

Examiner

John L. Goff

Art Unit

1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 September 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5, 6, 12, 14-17, 19, 22 and 25-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 6, 12, 14-17, 19, 22 and 25-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 September 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. This action is in response to the amendment filed 9/10/04. In view of the amendment, the previous 35 USC 112 rejections have been overcome.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

### ***Claim Objections***

3. Claims 12 and 22 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 12 and 22 require using a structural sealant as the secondary sealant. Independent claim 1 (from which claim 12 depends) requires using one of silicone, polysulfide, or polyurethane as the secondary sealant, and independent claim 19 (from which claim 22 depends) requires using silicone as the secondary sealant. Thus, claims 12 and 22 allow for a broader range of sealants than the independent claims they depend from such that the claims are not further limiting.

***Claim Rejections - 35 USC § 103***

4. Claims 1-3, 5, 6, 12, 14, 19, 22, and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Town (U.S. Patent 6,002,521) in view of Hodek et al. (U.S. Patent 5,655,282).

Town discloses a method for fabricating an insulating glazing unit. Town teaches the method comprises providing first and second glazing sheets, connecting a spacer (free of sealant) to the first and second glazing sheets using an adhesive such that an outwardly-facing channel is formed between the glazing sheets and the spacer and an insulating chamber is formed inward of the spacer between the glazing sheets, hermetically sealing the insulating chamber by applying a primary sealant into the outwardly-facing channel where the primary sealant continuously extends entirely across the channel from the first glazing sheet to the second glazing sheet, and applying a secondary sealant into the outwardly-facing channel after the primary sealant is applied to form a continuous secondary seal from the first glazing sheet to the second glazing sheet (Figures 1-11 and Column 4, lines 53-57 and 64-67 and Column 8, lines 10-14 and 45-48 and Column 9, lines 46-60 and Column 10, lines 44-57 and Column 11, lines 42-53). Town teaches the spacer may be formed of materials well known in the art including metal (Column 8, lines 15-19), the spacer may have a pair of notched corners (Figure 10), and the spacer may carry a desiccant (Column 8, lines 23-25). Town teaches the primary sealant may comprise materials exhibiting good adhesion to metal or plastic spacers including thermoplastic materials (e.g. polyisobutylene) or thermosetting materials (e.g. silicon or polyurethane) (Column 8, lines 56-58). Town teaches the primary sealant may (optionally) be hardened/cured prior to applying the secondary sealant (Column 10, lines 56-28). Town teaches the secondary sealant may comprise

Art Unit: 1733

materials exhibiting good moisture resistance such as silicone (thermosetting) resins (a structural sealant) and urethane adhesives (Column 9, lines 5-7).

Regarding claims 1, 19, and 26, Town does not specifically disclose using hot melt butyl as the primary sealant, it being noted Town is not limited to any particular primary sealant and polyisobutylene is suggested by Town as exemplary of a suitable primary sealant. Absent any unexpected results, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the primary sealant taught by Town well known and conventional primary sealants such as hot melt butyl as shown by Hodek et al. as Hodek et al. show the alternative use of both hot melt butyl and polyisobutylene in the same art as primary sealant materials.

Regarding claims 2, 19, and 26, Town does not specifically disclose using a foam-bodied spacer, it being noted Town teaches the spacer is formed of materials well known in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use as the spacer taught by Town well known and conventional spacers such as those formed of foam as suggested by Hodek et al. as only the expected results would be achieved, e.g. lighter glazing units.

Hodek et al. disclose an insulating glazing unit. Hodek et al. teach a pair of glass sheets separated by a spacer wherein the spacer is located inward from the perimeter of the glass sheets forming an outwardly-facing channel and an inward, insulating chamber (Figure 10 and Column 3, lines 21-29 and Column 7, lines 60-63). Hodek et al. teach first (154 of Figure 10), i.e. primary, and second (155 of Figure 10), i.e. secondary, sealants applied to the spacer and glass sheets to provide a moisture barrier (Column 7, lines 63-66 and Column 8, lines 24-28). The

Art Unit: 1733

first sealant may comprise hot melt butyl adhesive (Column 7, lines 55-59) or polyisobutylene (Column 11, lines 40-41). The second sealant may comprise a structural sealant made of a thermoset such as silicone (Column 8, lines 24-28). Hodek et al. further teach that it is well known in the art to use both foam and metal spacers carrying a desiccant (Column 4, lines 37-41 and 66-67), and it is known to use a spacer with a pair of notched corners (Figure 1).

5. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Town and Hodek et al. as applied above in paragraph 4, and further in view of Schlienkamp (U.S. Patent 4,519,962).

Town and Hodek et al. as applied above teach all of the limitations in claim 15 except for a specific teaching on using first and second sealant stations comprising first and second application nozzles to apply the sealants, it being noted Town is not limited to any particular method. Schlienkamp discloses a method and system for sealing the edges of insulating-glass panels. The sealing method of Schlienkamp is a continuous process wherein a glass pane is conveyed to a sealing station (Column 3, lines 23-27). A sealing nozzle then applies adhesive to the entire perimeter of the glass pane (Column 3, lines 42-44). It would have been well within the purview of one of ordinary skill in the art at the time the invention was made to apply the sealants taught by Town as modified by Hodek et al. using multiple sealant stations of the type suggested by Schlienkamp as only the expected results would be achieved.

Art Unit: 1733

6. Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Town and Hodek et al. as applied above in paragraph 4, and further in view of Battersby (U.S. Patent 3,759,771).

Town and Hodek et al. as applied above teach all of the limitations in claims 16 and 17 except for a specific teaching on using a device comprising first and second applicators wherein the second applicator trails that of the first to apply the sealants, it being noted Town is not limited to any particular method. Battersby discloses a method of making an insulating glazing unit (double glazing unit) (Column 1, lines 54-63). Battersby teaches providing a pair of glazing sheets separated by a spacer wherein the spacer (free of sealant) is spaced inwardly from the perimeter of the sheets forming an outwardly facing channel and an inward insulating channel (Figures 1 and 5-7 and Column 2, lines 24-29 and 57-60). Battersby teaches sealing the insulating chamber by simultaneously applying a first and second sealant into the provided outwardly facing channel. The sealants are applied through an applicator with two heads wherein the second applicator head trails the first, thus the second sealant covers the first (Figures 2-4 and Column 2, lines 63-71 and Column 3, lines 1-2 and 11-17 and 40-45). Battersby teaches that the first and second sealants may be different (Column 4, lines 16-23), and the sealants comprise a wide variety of materials including polyisobutylene, polyurethane, and thermosets (Column 3, lines 62-63 and Column 4, lines 7 and 12-13). Battersby teaches that the sealants prevent the entry of dust and/or moisture into the insulating chamber (Column 2, lines 30-34). Battersby further teaches that the spacer may be formed of metal, plastics, or wood and may include a desiccant (Column 2, lines 40-44), and the spacer may have notched corners

Art Unit: 1733

between the glazing sheets and the spacer with the first sealant applied in the notched corners (Figures 2-6 and Column 2, lines 45-56).

Regarding claim 16, it would have been well within the purview of one of ordinary skill in the art at the time the invention was made to apply the sealants taught by Town as modified by Hodek et al. using a device comprising first and second applicators wherein the second applicator trails that of the first as suggested by Battersby as only the expected results would be achieved. Regarding claim 17, it is noted that in the method and apparatus of Battersby a retractable applicator nozzle is not necessary. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a retractable first nozzle if the nozzle would disturb the application of the second sealant.

### *Response to Arguments*

7. Applicant's arguments with respect to claims 1-3, 5, 6, 12, 14-17, 19, 22, and 25-27 have been considered but are moot in view of the new ground(s) of rejection. Applicant argues, "Town discloses a sealant system that is the opposite of the sealant methodology recited in Applicant's claims. Town locates its structural sealant inwardly of the secondary sealant that hermetically seals the insulating glazing unit." Town clearly teaches the secondary/outward sealant may comprise silicone, a structural sealant. Applicant further argues, "Town does not disclose the use of hot melt butyl in the location recited in the claims. Further, Town does not suggest the use of hot melt butyl because flowable, non-structural sealants such as hot melt butyl cannot function to hold a film taut in the manner required by Town. The Applicant submits that one of ordinary skill in the art would not be motivated by the Hodek reference to make the



Art Unit: 1733

substitution proposed by the Examiner because the use of butyl adhesive disclosed in Hodek would render the Town device inoperable for its intended purpose. Hot melt butyl would not hold the film taut and the user would be able to the wrinkles.”. Town discloses a primary/inward sealant layer comprising for example polyisobutylene that may be cured. Hodek et al. disclose in the same art a primary/inward sealant layer comprising hot melt butyl or polyisobutylene. Thus, because a) Town is not limited to any particular primary/inward sealant other than to suggest polyisobutylene, b) Hodek et al. clearly show the alternative use of hot melt butyl and polyisobutylene as primary/inward sealants in the same art, and c) both hot melt butyl and polyisobutylene adhesive may be cured (i.e. both would be operable in Town), the combination of Town and Hodek et al. would have been obvious absent any unexpected results.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Flint (U.S. Patent 4,042,736) see Column 1, lines 24-33.

### *Conclusion*

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

Art Unit: 1733

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John L. Goff** whose telephone number is (571) 272-1216. The examiner can normally be reached on M-F (7:15 AM - 3:45 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (571) 272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John L. Goff



JEFF H. AFTERGUT  
PRIMAR EXAMINER  
1000